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ABSTRACT

Sexual attitudes, knowledge, and behaviors evolve throughout life. Today's older persons were socialized in an environment which viewed sexuality as a procreative activity reserved for married persons in the childbearing years, thus neglecting the interpersonal and individual aspects of sexuality. A sexual psycho-educational intervention was conducted and evaluated for older persons (N=30), adult family members of older persons (N=30), and nursing home staff members (N=30). Elderly subjects in experimental and control groups were administered the Sexual Behavior Questionnaire and the Aging Sexual Knowledge and Attitudes Scale (ASKAS) before and after the experimental group intervention sessions. Family and staff participants completed the ASKAS before and after the experimental group intervention session. Results indicated significant changes in knowledge about and attitudes toward sexuality and aging in the family, staff, and elderly experimental groups, specifically in the direction of greater knowledge regarding sexuality and aging and more permissive attitudes about sexuality in the aged. (Author/NRB)

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Psychoeducational Intervention for Sexuality With the Aged, Family Members of the Aged, and People Who Work With the Aged

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Psychoeducational Intervention for Sexuality With the Aged, Family Members of the Aged, and People Who Work With The Aged

In western society human sexuality in old age is dominated by fear, stereotypical thinking, and ignorance (Cameron, 1970; Comfort, 1976, Golde & Kogan, 1959). As Blythe (1979) wrote: "The hope that sexuality itself would wither away and not add its desperate frustrations to agedness has long since been turned into the quite unfounded assurance that, with age, we naturally become asexual" (p. 7). Indeed, despite sampling bias limitations, several studies support the conclusion that many aged continue to have sexual interests and remain sexually capable, if not always active (Kinsey et al., 1948; Kinsey et al., 1948; Masters & Johnson, 1970; Newman & Nichols, 1960; Verwoerdt et al., 1969; Pfeiffer et al., 1972).

The benefits of continued sexuality in old age, sexuality which is fulfilling and anxiety free, cut obliquely across areas of psychological, social, and physiological health (Kassell, 1976; Felstein, 1970; Butler & Lewis, 1977; Glover, 1977; Rubin, 1965; Pfeiffer, 1974; Genevay, 1978; Hellerstein & Friedman, 1970; Levition, 1973). Despite the acknowledged benefits of continued sexuality, the aged persons social environment often provides little support for sexual activity (Wasow & Loeb, 1979; Butler & Lewis, 1977; White & Doyle, 1979; Kaas, 1978). In part, this lack of support may be related to our culture's youth orientation towards sexuality. Sex educators do not seem to perceive a sex and aging component to be important in sex education for adolescents (Kirby, et al., 1979). The latter finding is somewhat surprising since, although sex and aging

information is not directly significant to an adolescent, it might create more acceptance of sexually active elderly and serve as a preventative measure for some of the psychological problems associated with sexual functioning in their own aging.

It is also clear that societal attitudes proscribe many forms of sexual behavior for which neither the actual psychological nor physiological consequences warrant the socially induced anxiety often associated with such behavior. Masturbation, for example, has severe prejudices against it for both sexes (Renshaw, 1976). This is the case despite the fact that approximately 94% of men and 50 to 80% of women have masturbated at some point in their life (Renshaw, 1976). For widows and widowers masturbation may be the only convenient and available form of sexual activity. Such reminds me of a question I was asked by an elderly woman regarding what she ought to do for sexual stimulation since her husband had died some years earlier. Another elderly woman said loudly, "Well, what'd you do before you were married!"

The social proscription against being sexually active and old is most insidious. Some elderly persons may incorporate the self-perception of an asexual older person into their cognitive framework. That is, for some elderly the negative stereotype of the sexless older person may produce the self-perception, "I am old, therefore, I am sexless." In this respect Eaid (1972) has noted that many older people perceive their sexual interests as abnormal. Moreover, a lack of basic knowledge in regard to normal physiological sexual changes with age may predispose some elderly to conclude that their sex life is over. For instance, the older male may view changes in penile erectile and orgasmic response as indicators of sexual loss which,

along with possible concomittant performance anxieties, could produce expectations for failure; expectations which generate a self-fulfilling prophecy of decreased sexual interest and behavior (Oakes et al., 1976; Masters & Johnson, 1966; Solnick & Birren, 1977; Weg, 1978). In some respects, these considerations are part of a broader cognitive set for many elderly which focuses more on physical deterioration or incorrectly labeled age changes, than on the positive aspects that may exist (Rosenfelt, 1965). These psychological circumstances could account for findings showing that 50% or women over 65 years of age express no sexual interest (Pfeiffer, et al., 1972), and results that suggest increased secondary impotence for aged males relative to younger males, as may likely be reflected in the overall increase in secondary erectile impotency with age (Pfeiffer et al., 1972; Kinsey et al., 1948).

One means of addressing the above problem aspects of sexuality and aging is through a sex education intervention. We have called this intervention psycho-educational (Garrison, 1978) to convey the notion that it is an educational intervention of a therapeutic - clinical nature. Utilizing psychological theory, specifically social learning theory (Bandura, 1969), we are presented with a framework for modifying attitudes, knowledge, and behavior regarding sexuality. Both sex researchers and educators have pointed out the positive contributions of sex education to healthy sexual attitudes and behavior (Gordon, 1973; Kirkendall, 1965; Masters & Johnson, 1970; Reichelt & Werley, 1975). However, nearly all sex education programs and associated research have been concerned with adolescents. Further, indepth assessment of specific effects following sex education programs are either lacking or inadequate (Voss & McKillip, 1979).

The present study was conducted to assess the effects of an older age oriented sex education program on elderly persons, nursing home staff, and adult family members of elderly persons. The latter two groups are important for inclusion when considering possible hinderances to sexual activity in the elderly persons social-sexual environment. Further, given the primary emphasis on issues of sex and aging, such a program may act as a long-term preventative measure for the non-aged persons in these two groups.

The inclusion in the present program of sexual fact giving was viewed as essential. Present elderly cohorts grew up in the late 1800s and 1900s and were not likely to be exposed to factual information about sexuality and aging. In this latter respect, White & Doyle (1979) found the desire among aged persons for information regarding sexuality to be extensive. Although the family and nursing home staff groups may represent age groups that have received some sex education, it is likely that they have not received prior education concerning sex and aging, an assumption which is consistent with the Kirby et al.(1979), data referred to earlier.

In terms of attitudinal effects, sex education with adolescents has been found to lead to acceptance of particular sexual behaviors, even if the person would not participate in such behaviors themselves (Howard et al., 1970). Thus, some aged persons may become more tolerant of sexual activity among other elderly individuals, while not necessarily becoming more sexually active themselves. Attitudinal shifts toward greater acceptance of sex among the aged addresses the issue of peer group pressures as a factor inhibiting sexual activity among the aged (Kaas, 1978). Similarly, greater acceptance of sexual activity/interest among the aged by younger family members and those who work with the elderly may provide a more tolerant environment for the sexually active elderly.

Since the primary orientation of this sexual intervention program is to deal with the myths and create a permission giving climate regarding sexuality in old age, it is expected that increases in sexual behavior, sexual satisfaction, and sexual fantasies will occur for experimental elderly subjects. This is in accord with our earlier arguments concerning the self-perception, "I am old, therefore, I am sexless."

Evaluation

The following hypotheses were examined in evaluating the sex education program:

1. Sexual knowledge post-scores would increase within the experimental groups relative to their own pre-scores and relative to the post-scores of the control groups. Relatedly, the post-scores of the control goups would not change from pre - to post-test.
2. Sexual attitude scores would change in the direction of more permissive attitudes within the experimental groups relative to their pre-scores and relative to the post-scores of the control groups. Relatedly, the control groups attitudes would not change from pre - to post-test.
3. Frequency of sexual behavior in the aged experimental group (as behavior was not examined in the other groups, nor was it a goal in the present program to alter sexual behavior in any group but the aged participants) would increase from pre - to post-test and relative to the post-test of the control group. Relatedly, sexual behavior would not change from pre - to post-test in the control group.

4. Sexual satisfaction would increase in the aged experimental group from pre - to post-test and relative to the post-test scores of the control group. Relatedly, sexual satisfaction would be unchanged in the aged control group from pre - to post-test.

These hypotheses were evaluated utilizing multiple regression techniques incorporating pre-test scores (analogues to covariance techniques in which change is examined as a function of pre-test score), and condition (experimental vs. control). The dependent variables were post-test scores, and change from pre - to post-test.

Participants. Community residing elderly participants (N = 30, $\bar{X}$ age: Experimentals = 67.8 years, Controls = 69.3 years) were recruited from local Older American groups. Elderly subjects were all Caucasian and self reported heterosexuals (12 males, 18 females). The mean educational levels were 15 years (S.D. = 3.09) for the experimental group, and 14.86 years (S.D. = 2.77) for the control group.

Family of elderly persons, i.e., immediate relatives, (N = 30, $\bar{X}$ age: Experimentals = 30.9 years, Controls = 33.2 years) were recruited from the local community on a volunteer basis (10 males, 20 females). The mean educational levels were 16.70 (S.D. = 3.36) years for the experimental group, and 16.6 (S.D. = 2.91) for the control group. These family participants were not related to the elderly participants.

Nursing home staff participants (N = 30, $\bar{X}$ age: Experimentals = 32.7 years, Controls = 33.1 years), i.e., Administrators, Registered and Licensed Practical Nurses, and Activity Directors were recruited from local long-term care facilities. The mean educational levels were 13.86 (S.D. = 1.72) years for the experimental group and 13.46 (S.D. = 1.72) for the control group.

All participants were informed of the study's purpose and signed an informed consent form.

Research Design and Measures. All elderly participants were interviewed one month to six weeks prior to the experimental treatment. (See note 1, Appendix F). Elderly participants were assigned to experimental and control conditions by a randomized blocks procedure, blocking on educational level ($\bar{X}$ education: Experimentals = 15.0 years, Controls = 14.86 years). An initial analysis demonstrated no significant relationships between gender, marital status, age and the dependent variables following treatment. Experimental elderly participants participated in 3, 2 hour sessions over 3 consecutive weeks, i.e., one/week. One month to 6 weeks following the last session all participants were re-interviewed utilizing the identical measures as in the pre-interview. Interviews were conducted by sex and age matched interviewers, who had been trained to conduct sexual interviews. Interviewers were unaware of the condition (experimental or control) participants were assigned to.

Family of elderly participants, using a randomized blocks procedure (blocking on education), were assigned to experimental and control conditions ($\bar{X}$ education: Experimentals = 16.7 years, Controls = 16.6 years). Pre - post-tests were self-administered. Experimental participants participated in a one day, 6 hour, session and received both pre and post-tests on that day. Controls received pre and post-tests at the same time period as the experimental groups.

Nursing home staff were assigned to control and experimental conditions by a randomized blocks procedure, blocking on education ($\bar{X}$ education: Experimentals = 16.5 years, Controls = 17.0 years). All other design features were identical with those for family of elderly participants.

Elderly participants were administered the Sexual Behavior Questionnaire (White, 1978), and the Aging Sexual Knowledge and Attitudes Scale (ASKAS) (White, 1978). Family of elderly and nursing home staff subjects received the Aging Sexual Knowledge and Attitudes Scale (ASKAS) (White & Doyle, 1979). All data was gathered via personal interview.

Procedure and Stimulus Materials. All experimental sessions were conducted by two Instructors, one female and one male. All formal stimulus presentations were followed by informal discussion and questions. Order of presentation for stimulus materials was kept constant. Materials presented in one session were not repeated or continued at a later session.

Elderly experimental participants received in: Session No. 1, a lecture - discussion on myths about sexuality and aging, a panel discussion video tape of a group of experts on sexuality and aging; Session No. 2, a lecture-discussion on psychological and physiological aspects of sexuality and aging, and a film on interpersonal intimacy; Session No. 3, a lecture on disease effects, drug effects, and environmental effects on sexuality, and a simulation exercise on problem situtations encountered by older persons regarding sexual activity. Lecture topics thus included material on the normative changes in regard to sex and aging, benefits of sex in old age, social hindrances to sexual expression and intimacy, "retirement" marriages, and other physiological, pharmacological, psychological and sociological factors relevant to sex and aging. Transcripts of each lecture were provided for the participants. The panel discussion video tape provided opinions and facts about sexuality and aging from professionals with backgrounds in religion, sexuality, and aging.

Family of elderly and Nursing Home Staff participants received the same lecture material as given to the elderly participants, though the simulation exercise was presented from the point of view of nursing home staff, and the family in the case of the family member group. The groups were all presented the program in separate sessions.

Interview Scales

Two scales were utilized in the present research: 1) the Aging Sexuality Attitudes and Knowledge Scale (ASKAS), and 2) a Sexual Behavior Questionnaire. Both of these instruments were developed as part of an ongoing N.I.M.H. study of Sexuality in Long-Term Care Institutions (White & Doyle, 1979).

The Sexual Behavior Questionnaire is a 104 item interview which asks questions regarding current sexual behavior, past sexual behavior, the individual's belief in factors influencing their sexual behavior, and frequencies of various sexual behavior, both currently and in the past. It is designed to be given in either an interview or paper-and-pencil format.

The ASKAS is a 60 item scale with 35 knowledge about sexuality and aging questions with a true - false - don't know response format, and 24 attitudes toward sexuality and aging questions with a 7 point agree - disagree Likert Scale response format. It may be administered via personal interview or in a paper-and-pencil format.

The ASKAS has been utilized in several previous studies and demonstrated very acceptable reliabilities on both attitudes and knowledge sections. ALPHA reliabilities have been between .86 and .91, split-half reliabilities ranged from .83 to .91, and test-retest reliabilities between .72 and .97.

The ASKAS has demonstrated acceptable validity in two previous studies. White and Doyle (1979) reported that scores on the attitude portion of the ASKAS significantly discriminated between sexually active and sexually nonactive

nursing home residents, such that the more permissive the attitude the more likely the individual is sexually active. Hammond (1979) reported that the attitude scores on the ASKAS were significantly more permissive in the experimental group following a sex education program with older people, and that the knowledge scores were significantly higher in her experimental group following a sex education program. The scores of her control group were not significantly different from pre-test to post-test.

Findings

Aged Group Knowledge

Table 1 presents the means and standard deviations of the aged experimental group and the aged control group on the sexual knowledge measure by pre-test and post-test. (Note that decreasing scores represent increased knowledge).

Insert Table 1 About Here

A t Test between the pre-score means was non-significant (t = .37, df 28, p >.71). Multiple regression analysis with post-test scores regressed on condition (experimental vs. control) and pre-test knowledge scores indicated a significant overall effect for the model (F = 32.66, df = 2,27, p < .0001), and yielded an R^2 of .71. The condition effect was significant (F = 59.32, p < .001) as was the pre-knowledge effect (F = 8.90, p < .006). Correlations within condition, between pre-test and post-test, were r = .98 for the control group, and r = .14 for the experimental group. (Such suggests that the pre-knowledge effect is largely attributable to the pre-test, post-test relationship in the control group.)

Aged: Attitudes

Table 2 presents the means and standard deviations for the aged experimental and control groups on the Attitudes Toward Sexuality in the Aged

by pre-test and post-test. (Note that decreasing scores represent a more permissive attitude.)

Insert Table 2 About Here

A t test between the pre-score means was non-significant (t = -1.52, df 28, p >.14). Multiple regression analysis with condition and pre-score indicated a significant overall effect (F = 23.33, df = 2,27, p <.0001) with an R^2 of .63. Condition was significant (F = 5.61, p <.025) as was pre-score (F = 30.27, p <.0001). Correlations within condition, between pre-test and post-test scores were r = .60 for the experimental group and r = .96 for the control group. (Again, the pre-score, post-score correlation in the control group accounts for the largest portion of the effect for pre-score.)

Staff, Family: Knowledge

Table 3 presents the means and standard deviations of the family groups and the staff groups by condition and pre-test, post-test. (Decreasing scores represent increases in knowledge.)

Insert Table 3 About Here

A t test between the pre-score means of the staff experimental group and the staff control group was non-significant (t = .95, df 28, p >.35). A t test between the pre-score means of the family experimental group and the control group was significant (t = -2.87, df 28, p <.007), suggesting that these two groups were not initially from the same population with regard to knowledge about sexuality and aging. Multiple regression analysis with condition and pre-score of the staff indicated a significant overall effect (F = 33.77, df = 2.27, p <.0001) with R^2 = .71. The condition effect was

significant ($F = 35.97$, $p < .0001$), as was the pre-score effect ($F = 20.02$, $p < .0001$). The correlation between pre-score and post-score within condition was $r = .79$ for the staff control group, and $r = .11$ for the staff experimental group.

Multiple regression analysis with condition and pre-score of the family knowledge scores indicated a significant overall effect ($F = 186.75$, $df = 2,27$, $p < .0001$) yielding $R^2 = .93$. The condition effect was significant ($F = 59.79$, $p < .0001$), as was the pre-score effect ($F = 52.58$, $p < .0001$). The correlation between pre-test and post-test, within condition, were $r = .01$ for the experimental group, and $r = .94$ for the control group.

Staff, Family: Attitudes

Table 4 presents the means and standard deviations of the staff and family groups by condition and time of testing on the attitude scale. (Note that decreasing scores indicate an increase in permissive attitudes.)

Insert Table 4 About Here

A t test between the pre-score means of the staff experimental and the staff control groups was non-significant ($t = .46$, df 28, $p > .65$). A t test between the pre-score means of the family experimental and the family control groups was significant ($t = -5.18$, df 28, $p < .007$).

Multiple regression analysis on family attitudes indicated a significant overall effect ($F = 104.06$, $df = 2,27$, $p < .0001$), yielding $R^2 = .89$, a significant effect for condition ($F = 5.30$, $p < .03$), and a significant effect for pre-score ($F = 130.35$, $p < .0001$). Within group correlations between pre-test and post-test were $r = .36$ for the experimental group, and $r = .98$ for the control group.

Multiple regression analysis on staff attitudes indicated a significant overall effect (F = 3.48, df 2, 27, p <.05) yielding R^2 = .20. The condition effect was significant (F = 5.87, p <.02) while the pre-score effect was non-significant (F = 1.56, p >.22). The within group correlations between pre - and post-attitudes were r = .07 for the experimental group, and r =.07 for the experimental group, and r = .44 for the control group.

Aged Sexual Affect

Table 5 presents the means and standard deviations for sexual fantasies, sexual satisfaction, and self-perceived attractiveness in the aged experimental and control groups. Number of sexual fantasies were self-reported for the one month period prior to the interview. Current sexual satisfaction was rated on a seven point Likert scale with one meaning not satisfied and seven meaning satisfied. Self-perceived attractiveness was rated on a seven point Likert scale with one meaning not attractive and seven meaning attractive.

Insert Table 5 About Here

Multiple regression analysis on attractiveness ratings between groups indicated an overall significant effect (F = 14.17, df = 2,27, p <.0001), yielding R^2 = .51. The analysis indicated a non-significant effect for condition (F = .09, p >.77), and a significant effect for pre-score ratings of attractiveness (F = 27.60, p <.0001). The correlation within groups between pre - and post-attractiveness ratings was r = .64 for the experimental group, and r = .82 for the control group.

Multiple regression analysis on sexual satisfaction scores indicated a significant overall effect (F = 17.92, df 2, 27, p .0001). R^2 = .57, a

significant effect for condition ($F = 13.54$, $p < .001$), and a significant effect for pre-score ($F = 27.28$, $p < .0001$). The correlations within groups between pre - and post-satisfaction scores was $r = .45$ for the experimental group, and $r = .90$ for the control group.

Multiple regression analysis on frequency of sexual fantasies indicated a non-significant effect ($F = 1.60$, $df = 2, 27$, $p > .22$), yielding $R^2 = .11$.

Table 6 presents the means and standard deviation for the aged experimental and control groups ratings pre and post regarding the importance of sexual activity. Importance was rated on a seven point Likert scale with one meaning no importance and seven meaning important.

Insert Table 6 About Here

Multiple regression analysis on importance of sexual activity indicated an overall significant effect ($F = 33.83$, $df = 2,27$, $p < .0001$) and $R^2 = .72$. Further, condition was significant ($F = 11.63$, $p < .002$), and pre-score rating of importance was significant ($F = 55.21$, $p < .0001$). The correlations within condition between pre - and post-importance ratings were $r = .65$ for the experimental group, and $r = .93$ for the control group.

Aged: Sexual Behavior

Table 7 presents the means and standard deviations of sexual behavior for the aged control and experimental groups. Behavior values reflect frequency for one month prior to the interview.

Insert Table 7 About Here

Multiple regression analysis on frequency of masturbation indicated a significant overall effect ($F = 5.43$, $df = 2, 27$, $p < .01$), yielding $R^2 = .29$. The condition effect was significant ($F = 10.83$, $p < .003$) while pre-score was non-significant ($F = .11$, $p > .75$). The correlations within condition between pre - and post-masturbation frequencies was $r = -.15$ for the experimental group, and $r = .81$ in the control group.

Multiple regression analysis on frequency of sexual intercourse indicated a significant effect ($F = 12.41$, $df = 2, 27$, $p < .0002$) yielding $R^2 = .48$. The condition effect was significant ($F = 5.84$, $p < .02$), as was the pre-score effect ($F = 16.55$, $p < .0004$).

An examination of Table 8 indicates that all pre-score differences between the aged control and experimental groups were non-significant.

Insert Table 8 About Here

Discussion

Knowledge and Attitudes

The present results indicated significant changes in knowledge about and attitudes toward sexuality and aging in the family, staff, and elderly experimental groups, both relative to their own pre-test scores and relative to the post-test scores of the control groups. An examination of the means in Tables 1, 2, 3, and 4 indicated that these changes were in the direction of greater knowledge regarding sexuality and aging, and toward more permissive attitudes about sexuality in the aged. The standard deviations suggest that there was, not surprisingly, greater homogeniety in sexual attitudes and sexual knowledge in the experimental groups relative to their

own pre-score standard deviations, and relative to the standard deviations of the control groups. The only exception to this trend toward reduced variability in responses was the aged experimental group attitude scores, which reflected increased variability, but an overall increase in permissive attitudes.

The t tests between groups pre-test scores indicated that, with the exception of family pre-test attitude scores, and family pre-test knowledge scores, the groups were not initially significantly different in attitudes or knowledge. The family experimental group had greater knowledge and more permissive attitudes about sexuality and aging prior to treatment than did the family control group (though the change from pre-test to post-test in the family experimental group was significant in both knowledge and attitudes). Hence, the family groups pre-score comparability is somewhat suspect and the interpretation of the change due to treatment is less clear than in the other groups. The change in the family experimental groups from pre-test to post-test attitude scores were the smallest of any of the experimental groups. The family experimental group change from pre-test to post-test in knowledge scores, however, was substantial. The nonsignificant attitude scores from pre - to post-test may have reflected a ceiling effect due to the initilaly more permissive attitudes of the family experimental group. Indeed an examination of the attitude pre-score means of all groups indicated that the family experimental group held more permissive attitudes on the pre-test than did any of the other groups on either pre- or post-test, a relationship which also held on the post-test.

The significant effect for pre-score in the multiple regression analyses, observed in all analyses except staff attitudes toward sexuality in the aged,

can best be explained as due to the high positive correlation between the pre-test and post-test scores of the control groups. Such an interpretation is supported by the within group correlations between pre-test and post-test scores, which were highly positive within the control groups and relatively smaller within the experimental groups. In fact, the within group correlations of the control groups may best be viewed as test-retest reliability coefficients (uncorrected for attenuation).

We do not know what the implications are of the attitude and knowledge changes in the family and staff experimental groups for the older persons with which these two groups deal. It would appear that these participants would be more accepting of sexual needs in the aged (as is suggested by the increased permissiveness of their attitude scores). Further, family and staff experimental participants would be in a position to serve as both a resource and a support for dealing with the sexual concerns of their older relatives or older clients. That a relatively brief educational intervention lead to the significant changes in attitude and knowledge is an important finding in its own right. In order to support the sexual behavior changes reported by the aged experimental participants, it is necessary to deal with the significant others in their environment. The family of older people and the staff of institutions are part of the social environment of many older people.

Clearly, these findings indicate that the exposure to a program of sexual education had a significant positive effect (more knowledge, greater permissiveness) in all groups.

Sexual Affect

The exposure to a sex education program had no significant impact on self-rated attractiveness. The program did not address the issues of

attractiveness, and hence it is not particularly surprising. The notion we were examining is considering self-rated attractiveness was that increased sensitivity to sexuality would result in increased attention to one's appearance (and related dimensions of attractiveness), and that increased sexual activity levels would result in feeling more desired by others. However,such did not occur, at least not in any way that we were able to measure. Further, the initial attractiveness ratings were not very low at the pre-test. Such suggests that these people did not feel unattractive to begin with! The significant pre-score effect (and nonsignificant treatment effect) reflects the non-effect of the treatment and the reliability of the attractiveness ratings.

Sexual satisfaction was significantly effected by the treatment, while the significant pre-score effect was a reflection of the strong correlation between satisfaction ratings on the pre- and post-tests in the control groups. Sexual satisfaction is an important dimension in the quality of one's life at any age, but most particularly in an age group so often denied outlets for sexuality. An examination of the satisfaction means in Table 5 indicated a mean increase in the direction of a more positive satisfaction rating by the experimental group relative to both their own pre-test ratings and the ratings of the control group on the post-test.

Frequency of sexual fantasies did not change significantly, at least not consistently enough to reflect an overall effect for the treatment. An examination of the means, pre and post, of the experimental group shows an overall increase. However, the variability was so high (as reflected in the standard deviations) that any overall impact was obscured. Clearly, some members of the experimental group had a large increase in fantasies while others did not, hence an overall mean increase, but not reliably across all

persons in the experimental group. A possible interpretation of these fantasy data is that, given that fantasies reflect a concern with sexual activity for the individual, the treatment did not make sexuality a greater concern for these people. It was not our purpose to increase the time spent thinking about sexuality, but rather to provide information in a permissive context toward the acceptable resolution of one's sexual needs.

The results presented in Table 6 on the importance of sexual activity indicated a significant change in the direction of increased importance in the experimental group. The increase in importance is likely a reflection of the emphasis in the education program on the importance of accepting sexual needs as normal in elderly people. That is, to avoid denying sexual needs and, if one accepts a sublimitation thesis, to avoid expressing them in a less acceptable, less direct, and less satisfying manner. It is normal to feel sexual and to act sexual. Hence, sexuality is seen by these individuals as more important subsequent to the sexual education program.

Sexual Behavior

The significant effect of the treatment on frequency of sexual intercourse indicated the most important consequence of the program, an increase in sexual behavior, in fact, a 400% increase. Such impact is further reflected in the significant increase in masturbation in the experimental group, again a 400% increase. Thus, not only did the treatment effect attitudes, knowledge, and feelings about the importance of sexuality, but led to a reported increase in sexual behavior.

An important consideration in interpreting the present findings is that the sexual behavior frequency data are self-reports. Hence, the question may be raised as to whether we are observing actual increases in the frequency of sexual behavior, or observing a greater willingness on the part

of the experimental group to report sexual behavior. A further possibility is that the experimental group is responding to a perceived demand characteristic of the treatment that they show increases in sexual behavior. That is, the possibility that the aged experimental group believes since the interviewers expect increases in sexual behavior post-treatment, I will report increases in sexual behavior.

The interviewers, older people themselves, would not have likely directly pressured the participants in the interviews to report increases in behavior, as the interviewers themselves were blind as to the condition to which the interviewee belonged. While that blindness would not completely remove the demand effect, it would minimize it. The issue of increased willingness to report sexual behavior was dealt with in the educational sessions by expressing our concern to the participants that they report only the actual frequency of such behaviors. A third point is that, given all the other changes from pre- to post-tests in the experimental group, it is not counter-intuitive for sexual behavior to increase.

Finally, it is not clear, short of invasive observation, how one would be able to control for the increased comfort in talking about and reporting sexual behavior. It is certainly equally significant to be able to talk about one's own sexuality, as to increase the frequency of sexual outlet, when working with a sexually oppressed group. While we believe these data reflect actual increases in sexual behavior, the significance of the present findings is undiminished by either interpretation.

Generalizability

The elderly participants in the present sexual education program were not likely representative of the overall elderly population in the United

States. The mean educational level of the experimental participants (15 years, S.D. = 3.09) is greater than that of the aged in general among whom 16% have had one or more years of college, and 50% have never attended high school, according to the United States Bureau of the Census. In the present experimental group of older persons 66% had two or more years of college, while in the present control group of older persons 80% had one or more years of college. Further, all the elderly participants in the present research were Caucasian and volunteers for a sex education program. Therefore, these people were likely representative of a group with more sexual motivation than may be typical of older people in general.

The long-term consequences of the treatment are presently unknown, as all post-tests were conducted between one month and six weeks after the conclusion of the program. We are planning a one-year follow-up of the experimental group. The control groups were given the sex education program upon the completion of the collection of the presently reported data. These controls will also be followed-up one year from their completion date. Hence, we will in subsequent papers address the issue of the long-term consequences of this program of sex education for the aged.

In conclusion, the results supported all the hypotheses utilized in evaluating the sexual education program. It has presently been demonstrated how a relatively brief sexual education program with a specific focus may have a substantial effect on the elderly. While it is not being argued that sexuality is the most important problem for the elderly, it is certainly a problem for many aged people. That is, while sexual activity may not be important to all or even most of the aged, it is important to a substantial proportion of older people. Such individuals should have access to

information and guidance with regard to their sexuality, guidance and information effectively unavailable to most. None are well served by admonitions to "give it up", or to "avoid the shame and disgrace of a person your age desiring sexual activity." Sexuality is a part of life with no clear beginning, much less a clear ending. Our collective failure to deal with these sexual issues is a denial of our very self, for we shall become them, as Alex Comfort has "uncomfortably" reminded us.

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Table 1

Mean Askas Knowledge Scores of the Aged

Condition	Time of Test	
	Pre	Post
Experimental	$\bar{X}$ = 75.66 SD = 15.73	$\bar{X}$ = 52.33 SD = 5.93
Control	$\bar{X}$ = 73.73 SD = 12.51	$\bar{X}$ = 76.00 SD = 12.47

Table 2

Mean Askas Attitude Scores of the Aged

Condition	Time of Test	
	Pre	Post
Experimental	$\bar{X}$ = 75.60 SD = 21.35	$\bar{X}$ = 64.60 SD = 27.06
Control	$\bar{X}$ = 86.40 SD = 17.28	$\bar{X}$ = 88.46 SD = 18.28

Table 3

Mean Askas Knowledge Scores of Staff & Family Groups

Group	Time of Test	
	Pre	Post
STAFF		
Experimental	$\bar{X}$ = 58.73 SD = 8.77	$\bar{X}$ = 45.60 SD = 1.59
Control	$\bar{X}$ = 62.46 SD = 12.49	$\bar{X}$ = 61.00 SD = 11.09
FAMILY		
Experimental	$\bar{X}$ = 57.20 SD = 7.54	$\bar{X}$ = 45.4 SD = 1.80
Control	$\bar{X}$ = 78.00 SD = 13.60	$\bar{X}$ = 78.06 SD = 11.76

Table 4

Mean Askas Attitude Scores of Staff and Family Groups

Group	Time of Test	
	Pre	Post
STAFF		
Experimental	$\bar{X}$ = 79.86 SD = 27.46	$\bar{X}$ = 63.86 SD = 13.84
Control	$\bar{X}$ = 76.00 SD = 17.60	$\bar{X}$ = 80.46 SD = 24.26
FAMILY		
Experimental	$\bar{X}$ = 56.86 SD = 9.17	$\bar{X}$ = 53.1 SD = 5.71
Control	$\bar{X}$ = 75.00 SD = 22.65	$\bar{X}$ = 75.66 SD = 22.75

Table 5

Mean and Standard Deviations of Sexual Fantasies, Satisfaction, and Self-Perceived Attractiveness For the Aged Groups

Condition	Time of Test	
	Pre	Post
Experimental		
Fantasies	$\bar{X}$ = .60 SD = 1.35	$\bar{X}$ = 8.53 SD = 10.00
Satisfaction	$\bar{X}$ = 3.60 SD = 1.95	$\bar{X}$ = 5.40 SD = 1.50
Attractiveness	$\bar{X}$ = 3.26 SD = 2.18	$\bar{X}$ = 4.46 SD = 1.12
Controls		
Fantasies	$\bar{X}$ = 2.93 SD = 7.60	$\bar{X}$ = .73 SD = 1.22
Satisfaction	$\bar{X}$ = 4.20 SD = 2.11	$\bar{X}$ = 4.06 SD = 1.94
Attractiveness	$\bar{X}$ = 4.13 SD = 1.88	$\bar{X}$ = 4.80 SD = 1.78

Table 6

Importance of Sexual Activity For Aged Participants

Condition	Time of Test	
	Pre	Post
Experimental	$\bar{X}$ = 3.46 SD = 2.03	$\bar{X}$ = 5.06 SD = 1.48
Controls	$\bar{X}$ = 3.40 SD = 2.29	$\bar{X}$ = 3.60 SD = 2.32

Table 7

Means and Standard Deviations of

Sexual Behavior For Aged Groups

Sexual Behavior	Time of Test	
	Pre	Post
Intercourse		
Experimentals	$\bar{X}$ = .46 SD = .63	$\bar{X}$ = 1.86 SD = 2.50
Controls	$\bar{X}$ = .33 SD = .61	$\bar{X}$ = .26 SD = .59
Masturbation		
Experimentals	$\bar{X}$ = .46 SD = .74	$\bar{X}$ = 1.93 SD = 2.15
Controls	$\bar{X}$ = .26 SD = .59	$\bar{X}$ = .06 SD = .25

Table 8

t Tests Between Aged Experimental and Control Groups

on Behavior and Affective Pre-Treatment Scores

Variable	*t*	*df*	*p*
Masturbation	.81	28	> .42
Intercourse	-1.42	28	> .17
Sexual Arousal	- .32	28	> .75
Sexual Fantasies	1.64	28	> .11
Sexual Satisfaction	- .81	28	> .43
Importance of Sexuality	.08	28	> .93
Attractiveness	-1.16	28	> .26